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#### **ABSTRACT**

The school of education at Indiana University Southeast (IUS) adopted a program to incorporate technology into preservice teacher education and practicum training. Students in the program were nontraditional undergraduate junior and senior level elementary education majors. Students enrolled in a team-taught, 6-semester-hour block of Language Arts/Reading Methods with a field experience component at rural Galena Elementary School where IUS students worked with small groups of fourth and fifth graders. The long term goal of the program was for IUS graduates to be users of technology in their own classrooms, Participating students gained background knowledge on literacy instruction before beginning the practicum. The practicum involved observation, working directly with children, and teaching theme-based units that incorporated critical thinking and problem solving strategies. They used collaboration and cooperative learning groups to plan lessons although lessons were taught individually. A large segment of the practicum was focused on the integration of technology into thematic units. "Scaffolding" was another strategy used with the participants, i.e., the students attended workshops, "played with" the software, and role-played prior to using it with the children. Comments from Galena teachers indicated that the undergraduate students had added another dimension to the total language education of their students. Problems included elementary student discipline, time constraints, and occasionally greater computer literacy on the part of the elementary students than on the part of the ISU students. (JB)

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# RESTRUCTURING/REBUILDING OUR TEACHER EDUCATION PROGRAM: ONE "BLOCK" AT A TIME

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# Restructuring/ Rebuilding Our Teacher Education Program: One "Block" at a Time

#### **Statement of Problem:**

How can technology be incorporated into a teacher education program without an "add on" approach in the college curriculum, and how can pre-service teachers learn to incorporate computer use (instead of worksheets or simple drill and practice) into their future curriculum?

# Introduction

Since the onslaught of computer technology, a serious problem faced by educators who want to see computers used in elementary schools is that of training preservice teachers so that in the end the teacher will be a user of technology as a matter of course. The faculty of some schools of education have attacked the problem by urging the creation of new courses which focus on methods of teaching using computers; thus computing becomes a subject area.

Other educators go a step further and argue that the computer should assist in the breaking down of some of the artificialities of present curriculum divisions. At Indiana University Southeast (IUS), this problem was discussed and alternatives explored; the following represents our choice of solutions to this problem.

# Organizational/Programmatic Structures

The students who participate in this project are undergraduate junior and senior level elementary education majors at IUS, a regional campus in the Indiana University system and located in the Louisville, Kentucky, metropolitan area. For the most part, the faculty



members in the IUS Division of Education have a tradition of being compartmentalized, non collaborative, and "low tech." The majority of the student body members are non traditional students (over 25 years of age) and most are first generation college attenders.

The students in the project are enrolled in a team taught, six semester hour block of Language Arts/Reading Methods, which has a field experience component. The site for the practicum, Galena Elementary School (New Albany-Floyd County School Corporation), is a tural elementary school where the IUS students work with small groups of fourth and fifth graders. This particular school was selected due to its commitment and access to technology.

# Goals/Objectives

# Long Term

1. For IUS graduates to be users of technology in their own classrooms when employed.

## **Short Term**

- 1. To have students experience the integrated use of technology in an applied setting by incorporating it into their field-based lessons.
- 2. For university faculty to model technology integration in their college course offerings to achieve the spread of the effect to other faculty.
- 3. To disseminate to other Teacher Educators a potential model for program changes regarding technology.
- 4. To demonstrate to local school personnel what one model of technology use looks like.



# Description of the Project: Concepts and Strategies

The students enrolled in this block of courses attend classes on the IUS campus to acquire the needed knowledge bases for literacy instruction. In addition to reading textbooks, journal articles and activity books, the university students attend classroom presentations, engage in peer discussions, teach mini-lessons, and attend computer training sessions. The instructors for the two courses collaborate on several aspects of the classroom knowledge base, and collaborate with the Division of Education's computer expert on all aspects of the practicum requirements.

Once armed with the necessary background knowledge, the practicum begins. At first the university students simply observe the Galena children in their assigned classrooms. Next, the university students meet the children with whom they will work. During this "getting to know you session," the university students are asked to creatively find out about the background knowledge of the children. In addition, they are to find out about the children's computer knowledge and interests and introduce themselves by sharing a computer generated story they have written about their lives. The university instructors also provide a questionnaire that assists in the gathering of the information, (which has been reviewed by the Individual Rights Board and the Associate Vice Chancellor of IUS); parents have been informed of these questionnaires and have given (or not given) permission for their child to complete one.

The IUS students teach integrated, theme-based units, consisting of six one-and-one-half hour lessons based on a common theme. The students must naturally incorporate the use of



technology by meeting other course requirements (e.g. children's literature, study skills, the writing process, poetry, a directed teaching model, language experience approach, other content areas, etc.) They use collaboration and cooperative learning groups to plan the lessons, although lessons are taught individually. The fourth and fifth grade children are essigned to a group by their teacher.

A large segment of the practicum is focussed on the integration of technology into the thematic units. Because of this, our students are required to use software with the children that enhances their units. One—unirement is to have the children write a story related to their unit theme, using designated software. As software has become more advanced while also becoming more user friendly, the designated software has changed several times since the inception of our project. As the university has begun to put more money into technology and this project has received some warm accolades, more software and hardware is available to our students, and the university instructors are seeing the students use more than the required software.

Scaffolding is another strategy used with our students. IUS students first attend computer workshops, "play with" the software in a non-threatening atmosphere, role-play and use the software prior to using it with the children. Since scaffolding is a teaching concept that is promoted in their methods courses, the application of the concept is crucial to the students' growth.

The university students are required to use a teaching model whereby they address critical



thinking and problem solving strategies. Questions the IUS students formulate, stories the children write, and study strategies the students employ, all rely on higher level thinking skills. There are especially numerous opportunities for problem solving when using the technology as well; in fact, the program that is currently being required for IUS students to use with the children, MicroWorlds (Logo Computer Systems, Inc.), touts being a conduit to problem solving. In MicroWorlds there is more than one way to perform many tasks, but a user must logically think through the steps.

# Galena Teachers' Comments

The Galena classroom teachers believe the undergraduate students from IUS have added another dimension in the total language education of their elementary students and that the prospective teachers add a "family" unit to the instructional process. This small "family" group is made up of a mix of high, medium and low ability students. When working with small groups, the Galena teachers believe their students benefit, thanks to close guidance, trial and error, and close adult supervision. They are especially pleased that the IUS students share personal anecdotes, present units acknowledging the need to address a variety of learning styles, utilize many hands-on activities, and teach the students organization, planning, and how technology can enhance their units. They further believe children crave attention from an adult and that the IUS students fulfill this need.

Although the Galena teachers have seen great successes, they also notice that sometimes IUS and elementary students struggle. Here are a few of the problems that the IUS students have encountered: some elementary children creats a discipline problem; there is not enough



time to complete all parts of the planned lesson; and sometimes the children have surpassed the computer ability of the IUS students.

The elementary teachers believe they personally learn from their participation too. They see the advantage of watching their own students working with another teacher and believe the insights a teacher gleans from this are invaluable. They further enjoy the ability to review and update their own pedagogical skills by observing the IUS students using contemporary teaching methods. The sharing of ideas and the constant exposure to new childrens' literature are much appreciated by these classroom teachers, as well.

The addition of lap top computers has forced the IUS teachers to "set up shop" near electrical outlets, so now students are more readily seen by anyone in the halls of the school. The temporary appearance of a classroom in the corner of the library, a corner of the hall, a section of the cafeteria, and even in the school lobby, has offered other teachers in the building the opportunity to observe many new methods of instruction, particularly regarding computer use.

The Galena teachers say knowing that twice a year these college students will be visiting and observing the teaching in their own classrooms has kept them on their toes as they continue to be modern and enthusiastic role models for these "teachers-to-be." They say this is a constant motivator to them to be the best they can be to help these young people who are getting started in their professional careers. They have seen how much the children enjoy writing stories on the computers with no moaning or groaning about creative writing. The



Galena teachers have seen how excited and eager the children are to write now with the new technology programs. They believe all children, no matter what their abilities, can feel very successful with attractive and legible print, eye-catching graphics, and uniform appearance to their papers.

## **Means of Evaluation:**

Every semester the IUS students and Galena elementary students complete pre and post questionnaires concerning attitudes and computer use. Following each teaching session, the Indiana University Southeast student must also evaluate. They assess the day's lesson and make strategy changes in teaching and computer use. During the fall of 1994, the IUS program used individual laptop computers instead of table models at pre assigned times in the computer lab. This afforded all students more flexibility and enhanced those teachable moments.

From IUS student comments, one finds that they continue to be surprised to find the elementary students are fearless at problem solving using the computer. While the university students read manuals and carefully decided among options, for the most part the elementary students simply try the options and experiment.

Galena elementary students also give informal feedback as well as create computer generated stories, poetry and role playing situations and puppet shows. After assessing all questionnaires, student products, verbal feedback from IUS students, Galena elementary students and faculty, the three university faculty members reflect and make appropriate course and field changes.



Successes Achieved as a Direct Result of the Language Arts/Reading Practicum:

Students are doing a terrific job of integrating technology into their field-based lessons.

They write poems, stories, newspapers, maps, letters and use graphics and sound in their written pieces. Students who have left our program and have found employment insist mey are using technology as a vital component of their overall curriculum. Additionally, after seeing and hearing about this project, some school personnel have made changes in their traditional classroom programs. These educators realize that if students are coming out of college with the ability to successfully incorporate technology into the curriculum, they need to have the same skills as seasoned, master teachers. This project has forced others within our own teacher education faculty, to re-think their courses and see where updating, particularly through the integration of technology, is needed. Additionally, other teacher education programs around the country have been interested in ways to make similar changes in their required curriculum for undergraduate, elementary education majors.

Being involved with this project has raised the project directors' levels of self satisfaction with our teaching and learning. We have had to take risks and learn right along with the students and have given up on the idea of being "the experts". We now must admit that we will all solve problems and grow together in a cooperative and collaborative manner. This feels especially good since we finally believe we are training our students in a way that will give them success in the classrooms of the twenty-first century.

Our hope is that professors who have not yet shown an interest in integrating technology in their blocks of courses will soon see the power of such a change.

